

Notes on a New Jersey Fern Garden--III

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ADIANTUM PEDATUM, ASPLENIUM TRICHOMANES, etc.

Adiantum pedatum is at its best where there is protection from wind, plentiful moisture and shade. The clump which may be seen at the top of the cut was planted four or five years ago and has become thoroughly established. The location, however, is not as sheltered as it might be and at times driving wind and rain have reduced beautiful fronds to a dilapidated condition, though other ferns may not be at all injured. I am trying other plants of *Adiantum* in different places in the garden in an attempt to find a position that will produce specimen plants.

At its best it is a beautiful fern, but unhappily placed it is apt to look ragged.

Other ferns appearing in the accompanying illustration are *Woodsia obtusa*, *Cystopteris fragilis*, *Asplenium platyneuron*, *A. Trichomanes* and *Pellaea atropurpurea*. The *Woodsia* is being crowded by the *Adiantum*, but is holding its own and young plants have appeared lower down, where spores have lodged and germinated.

The original plants were found near Peekskill, N. Y., in 1926. They were growing on a loose, gravelly bank near the Hudson River. The slope was barely held in place by the roots of grasses, harebells (*Campanula rotundifolia*) and other plants. Evidently the ferns were unable to maintain their hold for more than two or three years, as all noted were small and slender. Much larger and finer specimens have been seen since then in the district between Cranberry Lake and Newton, N. J.

The plants of *Asplenium Trichomanes* were obtained at the same time as were the *Woodsia obtusa*, from the

station near Peekskill. Small plants were found growing on limestone ledges, almost bone dry at the time, though there were indications of abundant moisture earlier in the season. The finest specimens of *Asplenium Trichomanes* I have seen were growing in wet moss on trap-rock ledges at the New York end of Greenwood Lake, where there was apparently a continuous flow of water down the face of the rocks.

The photograph was taken before my plants of maidenhair spleenwort had reached their prime; later in the summer the fronds are longer and more numerous.

Asplenium platyneuron seems to thrive in dry, sunny places either among rocks or on grassy slopes. It is easily grown even in shady locations, but does better in the sun. My finest specimen is in the rock garden where it receives full sunshine most of the day during summer.

The *Cystopteris fragilis* just below the *Woodsia obtusa* in the illustration is a sporeling, one of many that have appeared in the fern garden. At the lower left corner there may be seen plants of *Pellaea atropurpurea* which have already been noted.

I try to add new varieties to my fern garden every year, but as the possibilities nearby are exhausted it becomes necessary to go farther and farther afield. During the late summer of 1930, while on a week-end visit at Cragmore above Ellenville, N. Y., I found a colony of *Cryptogramma Stelleri* on shale cliffs along a stream part way up the mountain. Due to the dry weather and lateness of the season (about August 7), the fronds had begun to shrivel, but roots were obtained and several pounds of the pulverized shale in which they were growing. Crevices in my miniature cliff were filled with this material and the roots were carefully in-



FERN GROUP, INCLUDING ADIANTUM PEDATUM, WOODSIA OBTUSA, ASPLENIUM TRICHOMANES, ETC.

sented. I am now watching to see if they will take hold and grow this spring (1931).

Near the above station of cliff brake were fine specimens of *Phegopteris Dryopteris* (oak fern), *Cystopteris bulbifera*, *Adiantum* and other ferns growing on wet rocks near a waterfall.

A great part of the enjoyment to be derived from a fern garden is to be found in discovering for one's self the fern stations and observing the locality and conditions under which the ferns grow. A fern brought home after an all day tramp through woods or a climb over rocks and ledges is more highly prized than one obtained by other means and is more likely to grow than one sent from an unfamiliar habitat.

WEST ORANGE, NEW JERSEY.

Recent Fern Notes from Southern California

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During the past three years college friends and myself have collected ferns rather extensively in the southern half of the state, and the following notes are the result of these recent trips afield.

To these personal notes are added those of Dr. P. A. Munz, of Pomona College, Claremont, California, hitherto unpublished. I express my sincere appreciation to Dr. Munz for many kindnesses and suggestions extended.

Our most complete report on the fern flora of this region is "Southern California Pteridophytes" by P. A. Munz and Ivan M. Johnston (*AM. FERN JOUR.* **12**: 69-77, 101-122 and **13**: 1-7, 1923). This report, and more recent scattered articles are used as the reference basis for this short paper.